

# Why Don't the Flow Meter Reading and Hydrawise Report Match?

Hydrawise controllers monitor the flow coming through your Hydrawise flow meter. The data can be reported in several ways within the **REPORTS** section.

On rare occasions, the flow meter and the Hydrawise reports may not match exactly. You should expect some variation in flow, but not by large amounts each week or month. Here are some common reasons why a flow meter and a controller report may show different readings.

## Issue 1. Backflow

Backflow is caused by water moving backwards in the system. Backflow typically happens when the flow meter and/or water source is located at a lower level than some of the irrigation pipes and the system has no backflow prevention. When the system shuts down, the water in the pipe will drain. This creates two potential problems for the flow meter and is a primary reason why a backflow device should be installed.

### Problem 1:

Water moving back through a flow meter reverses the paddlewheel direction and removes flow from the dial.

### Problem 2:

The flow meter electrically detects the water movement, but does not know that it is flowing backwards. Therefore, the meter adds it to the total system flow.

For example, a 100-gallon (or litre) drain will be displayed as -100 on the dial and +100 on the Hydrawise system, showing a 200-gallon (or litre) variation.

### How to Check:

You can verify the flow data on system shutdown. When the pump or system stops, take a video of the dials and watch it for a minute or so to look for the dials moving.

Also, note the timestamp on shutdown. Then check the system (reports) to see if it is gaining flow even though the flow meter is spinning backwards.

## Issue 2. Electrical Interference

Electrical interference in the system is the controller reading what appears to be normal flow, but is actually an electrical pulse coming across the wires. Hydrowise sensors monitor an electrical current of 5 V and can detect up to 150 pulses per minute.

Electrical pulses can come from a multitude of devices, including pump fans, electrical junction boxes, and any other device that can switch power on or off or have a repetitive current draw, such as an electric motor (common in pumps) or heat pumps. Electrical pulses are also created by electrical storms and lightning.

To avoid interference, we recommend using shielded cable that has an aluminum cover over the wires and before the PVC wire sheath. This provides a physical shield for the wires. Grounding the aluminum shield with the controller grounding can also help remove electrical interference.

**NOTE:** Wire insulation does not stop interference from occurring; it is the aluminum shield that helps.

### Problem:

Electrical interference can cause the controller to read a flow rate and accumulate water. However, since flow meter has not physically moved, it does not record flow, leading to a disparity between the meter reading and the Hydrowise software. This may also cause a leak detection alert.

### How to Check:

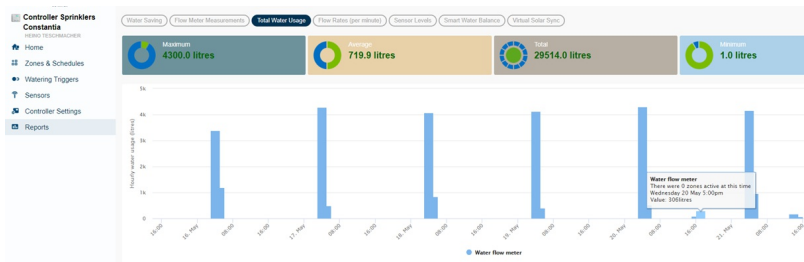
The best way to check is to replace the wire with shielded cable as described above and test the system.

You can also use this [test](#) <sup>[1]</sup> to confirm the system is measuring flow correctly.

View the “Total Water Usage” and “Flow Rates (per Minute)” reports. They will appear as follows:

#### Total Water Usage Report

This report shows the water flow when 0 zones are active. A discrepancy could be a leak or electrical interference.



## Flow Rates (per Minute) Report

Note the single dots on each day. The system has measured these as either flow from the meter or due to electrical interference. The single dots are filtered out, as they are often background noise that is not needed by most customers.

